

**Amendment and Response**

Serial No.: 09/986,346

Confirmation No.: 8502

Filed: 8 November 2001

For: UNI-DIRECTIONAL FLUID VALVE

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**Remarks**

The Office Action issued January 30, 2008 has been received and reviewed. Claims 41, 64, 70, 83, 86, 87, 89-93, 95, 104, 111-114, 120, 122, and 123 have been amended and claims 80-82 have been canceled -- leaving claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-79, 83-96, 100-104, 108-120, and 122-129 pending in the present application. Reconsideration and withdrawal of the outstanding rejections are respectfully requested.

**Amendments to the Claims**

The changes made in the amended claims are described below to assist the Examiner in discerning the changes because those changes are difficult to discern in view of the format of the claims as presented in the reissue amendment.

**Amended Claims 41 and 64**

Claims 41 and 64 have both been amended to recite that the exhalation valves include "only one flexible flap" (where the added language is underlined) in place of "a flexible flap" as recited before amendment. Support for the amendments to both claims can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 1-22 and Figures 2-5 (each of which depict a valve including only one flexible flap).

**Amended Claim 70**

The last clause of claim 70 has been amended as indicated in the portion reproduced below where the added language is underlined and the removed language is lined through:

(b) an exhalation valve that is mounted to the mask body, the exhalation valve comprising a flexible flap, a valve seat, and a valve cover, the valve seat comprising one or more inlet ports, which one or more ports are surrounded by a seal surface, the valve cover comprising one or more outlet ports and being joined to the valve seat, the flexible flap being mounted to the valve seat and having only one stationary portion and only one free portion and a peripheral edge that includes stationary and free segments at opposite ends of a longitudinal axis of the flap, the stationary segment of the flexible flap's

peripheral edge being associated with the stationary portion of the flexible flap so as to remain stationary during an exhalation, and the free segment of the flexible flap's peripheral edge being associated with the free portion of the flexible flap so as to be movable during an exhalation, ~~the flexible flap having a curvature in a direction transverse to the longitudinal axis of the flap, the transverse curvature being imparted to the flexible flap by the mounting of~~ wherein the flexible flap is mounted off-center such that at the stationary portion of the flexible flap is off-center relative to the longitudinal axis of the flap and closer to the stationary segment of the flap's peripheral edge than to the free segment, wherein the flexible flap has a transverse curvature in a direction transverse to the longitudinal axis of the flap, the transverse curvature ~~the mounting of the flexible flap at the stationary portion~~ being accomplished at least in part by having a member from the valve cover press against the flap to create sufficient curvature in the flap at a point where the member contacts the flap to cause at least part of the stationary portion to reside in non-alignment with the seal surface when viewing the flap in a longitudinal section (FIG. 4), the transverse curvature of the flexible flap member causing a biasing of the free portion of the flexible flap toward the seal surface under neutral conditions while also allowing the free portion of the flexible flap to be lifted from the seal surface during an exhalation.

The amendments to claim 70 are presented to separate the recitations regarding off-center mounting of the flap from the recitations regarding the transverse curvature of the flap. Further, claim 70 has been amended to recite that the transverse curvature of the flap is "at least in part" caused by a member associated with the cover. Support for claim 70 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

#### Amended Claim 83

Claim 83 has been amended to depend from claim 79 in place of canceled claim 82 and also to replace the word "constitutes" with "comprises."

#### Amended Claim 86

Claim 86 has been amended to recite the following: "a valve cover that has a profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat, wherein the flexible flap exhibits ~~to cause the flexible flap to exhibit~~ a curvature at least in a

direction transverse to the longitudinal axis" (with the removed language struck through and the added language underlined). Support for claim 86 can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, line 62 to column 4, line 10, as well as in Figures 3 and 4.

Amended Claim 87

Claim 87 has been amended to read "wherein the profiled block engages the flap at a non-central location of the flap in a non-aligned relationship to the sealing surfaces ~~to create an arched configuration transversely to the longitudinal axis, wherein the arched configuration, and wherein~~ the transverse curvature of the flap decreases along the longitudinal axis" (with the removed language struck through and the added language underlined). Support for claim 86 can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, line 16 to column 4, line 10, as well as in Figures 3 and 4.

Amended Claim 89

Claim 89 has been amended as indicated in the portion reproduced below where the added language is underlined and the removed language is lined through:

(ii) a valve seat that has at least one port to allow exhaled air to exit the mask body when worn on a person, the valve seat also comprising a seal surface onto which the stationary and free portions of the flap make contact when no fluid is passing through the port(s), the free portion of the flap being capable of being lifted from the seal surface when a wearer exhales to allow exhalate to exit the mask, the seal surface surrounding the port(s) so that when the stationary and free portions of the flap are in contact with the seal surface fluid cannot pass through the port(s) in an opposite direction to enter the mask, the flexible flap ~~having being mounted to the valve seat to create~~ a fixed curvature in the flap in a direction transverse to the longitudinal dimension, the fixed curvature being accomplished at least in part by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface, ~~the exerted force and the non-aligned relationship between the seal surface and the flap at the location of the force, imparting the curvature and biasing~~ wherein the force and the fixed curvature bias the flap towards the seal surface to enable the free portion of the flap to maintain

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substantial contact with the seal surface under any orientation of the mask when a fluid is not passing through the valve seat port(s).

The amendments to claim 89 are presented to recite that the transverse curvature of the flap is "at least in part" caused by a force exerted on the flap. Support for claim 89 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 90

Claim 90 has been amended as indicated below where the added language is underlined and the removed language is lined through:

90. (currently amended) The filter face mask of claim 89, further comprising a valve cover that has a profiled block extending therefrom, the profiled block engaging the flap so as to create the force ~~needed to impart an arched curvature to the flap.~~ needed to impart an arched curvature to the flap.

The amendments to claim 90 are presented to simplify the claim. Support for the amendments to claim 90 can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 91

Claim 91 has been amended as indicated below where any added language is underlined and the removed language is lined through:

91. (currently amended) The filter face mask of claim ~~[[90]]~~ 89, wherein the ~~profiled block engages the flap at a non-central location of the flap in a non-aligned relationship to the sealing surfaces to create an arched configuration transversely to the longitudinal axis, wherein the arched configuration~~ fixed curvature in a direction transverse to the longitudinal dimension decreases along the longitudinal axis in a direction going from the location where the profiled block engages the flap

towards the free segment of the flap's peripheral edge, and wherein the flap is trapped between respective surfaces on the profiled block and on the valve seat.

The amendments to claim 91 are presented to recite that the transverse curvature decreases over the length of the valve flap. Support for the amendments to claim 91 can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, line 16 to Col. 4, line 15, as well as in Figures 3 and 4.

Amended Claim 92

Claim 92 has been amended as indicated in the portion reproduced below where any added language is underlined and the removed language is lined through:

(ii) a valve seat that has at least one port to allow exhaled air to exit the mask body when worn on a person, the valve seat also comprising a seal surface onto which the stationary and free portions of the flap make contact when no fluid is passing through the port(s), the free portion of the flap being capable of being lifted from the seal surface when a wearer exhales to allow exhalate to exit the mask, the seal surface surrounding the port(s) so that when the stationary and free portions of the flap are in contact with the seal surface fluid cannot pass through the port(s) in an opposite direction to enter the mask, the flexible flap being mounted to the valve seat in a cantilevered manner, wherein the flap comprises ~~and to create~~ a fixed curvature ~~in the flap~~ in a direction transverse to the longitudinal dimension, the fixed curvature being accomplished at least in part by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface, ~~the exerted force and the non-aligned relationship between the seal surface and the flap at the location of the force, imparting the curvature and biasing~~ wherein the fixed curvature and the force bias the flap towards the seal surface to enable the free portion of the flap to maintain substantial contact with the seal surface under any orientation of the mask when a fluid is not passing through the valve seat port(s).

The amendments to claim 92 are presented to recite that the transverse curvature of the flap is "at least in part" caused by a force exerted on the flap. Support for claim 89 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 93

Claim 93 has been amended as indicated below where any added language is underlined and the removed language is lined through:

93. (currently amended) The filter face mask of claim 92, further comprising a valve cover that has a profiled block extending therefrom, the profiled block engaging the flap so as to create the force ~~needed to impart an arched curvature to the flap.~~

The amendments to claim 93 are presented to simplify the claim. Support for the amendments to claim 93 can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 95

Claim 95 has been amended as indicated in the portion reproduced below where any added language is underlined and the removed language is lined through:

wherein said ~~mounting of the flexible flap comprises to the valve seat~~ creates a fixed curvature ~~in the flap~~ in a direction transverse to the longitudinal axis, the fixed curvature resulting at least in part from a force being applied to the flap at a position proximate the root end and between the peripheral side edges, the applied force moving the flap upstream at the applied position and thus at least partially imparting the curvature, the curvature resulting in maintaining the flap substantially in contact with the sealing surfaces of the valve seat in the absence of an opening pressure differential across the flap, in any orientation of the valve; and

The amendments to claim 95 are presented to recite that the transverse curvature of the flap is "at least in part" caused by a force exerted on the flap. Support for claim 95 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 104

Claim 104 has been amended as indicated in the portion reproduced below where any added language is underlined and the removed language is lined through:

wherein ~~the mounting of~~ the flexible flap comprises to the valve seat ~~creates~~ a fixed curvature ~~in the flap~~ in a direction transverse to the longitudinal axis, the fixed curvature resulting at least in part from a force being applied to said flap in an upstream direction at a position proximate the root end and between the peripheral side edges, the applied force moving the flap upstream at the applied position and thus at least partially imparting the curvature, the curvature resulting in maintaining the flap substantially in contact with the sealing surfaces of the valve seat in the absence of an opening pressure differential across the flap, in any orientation of the valve;

The amendments to claim 104 are presented to recite that the transverse curvature of the flap is "at least in part" caused by a force exerted on the flap. Support for claim 104 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 111

Claim 111 has been amended as indicated in the portion reproduced below where any added language is underlined and the removed language is lined through:

wherein ~~the mounting of~~ the flexible flap comprises to the valve seat ~~creates~~ a fixed curvature ~~in the flap~~ in a direction transverse to the longitudinal axis, the fixed curvature at least partially resulting from a force being applied to said flap at a position proximate within the supported end and between the peripheral side edges, the applied force moving the flap upstream at the position and thus at least partially imparting the curvature, the curvature resulting in a biasing of the flap towards the seal surface to enable the free end of the flap to maintain substantial contact with the sealing surfaces in the absence of an opening pressure differential across the flap, in any orientation of the valve.

The amendments to claim 111 are presented to recite that the transverse curvature of the flap is "at least partially" caused by a force exerted on the flap proximate the supported end of

the cantilevered flap. Support for claim 111 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 112

Claim 112 has been amended as indicated below where any added language is underlined and the removed language is lined through:

112. (currently amended) The mask of claim 111, wherein the force is applied transverse curvature in the flap ~~includes a fixed transverse curvature in the supported end of the flap~~ at a location spaced inward from the portion of the of the supported end that contacts the sealing surface.

The amendments to claim 112 are presented to recite where the force that at least partially causes the transverse curvature of the flap is applied. Support for claim 112 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 113

Claim 113 has been amended as indicated below where any added language is underlined and the removed language is lined through:

113. (currently amended) The mask of claim 111, further comprising a valve cover having a block for mounting the flap in contact with said sealing surfaces; wherein said block exerts the ~~the~~ [[a]] force in the upstream direction ~~to said lower surface of the flap resulting the fixed transverse curvature.~~

The amendments to claim 113 are presented to address an antecedent basis issue and to simplify the claim. Support for claim 113 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 114

Claim 114 has been amended as indicated below where any added language is underlined and the removed language is lined through:



114. (currently amended) The mask of claim 113, wherein the transverse curvature in the flap includes a fixed transverse curvature in the flap in the supported end between the ~~profiled~~ block and the portion of the of the supported end that contacts the sealing surface.

The amendments to claim 114 are presented to address an antecedent basis issue.

Amended Claim 120

Claim 120 has been amended as indicated in the portion reproduced below where any added language is underlined and the removed language is lined through:

wherein the mounting means includes a block that exerts a force in the upstream direction to the flap's downstream surface at a position ~~within~~ proximate the supported end and between the peripheral side edges, the applied force moving the flap upstream at the exerted position and thus at least partially imparting the curvature.

The amendments to claim 120 are presented to recite that the transverse curvature of the flap is "at least partially" caused by a force exerted on the flap proximate the supported end of the cantilevered flap. Support for claim 120 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

Amended Claim 122

Claim 122 has been amended as indicated in the portion reproduced below where any added language is underlined and the removed language is lined through:

wherein the unidirectional exhalation valve is positioned on the mask body and the single flexible flap is arranged on the valve seat such that the free segment of the peripheral edge is disposed beneath the stationary segment when the mask body is appropriately positioned on a wearer's face, and wherein the flexible flap is mounted on the valve seat non-centrally relative to the valve seat orifice, there being a force exerted upon the flap in the upstream direction relative to fluid flow through the valve to at least partially impart a curvature to the flap when in a closed position, which curvature extends at least transversely to the longitudinal dimension, the free portion of the flexible flap being in contact with the seal

surface when a wearer of the mask is neither inhaling nor exhaling and being free to be lifted from the seal surface during an exhalation.

The amendments to claim 122 are presented to recite that the transverse curvature of the flap is "at least partially" caused by a force exerted on the flap in the upstream direction. Support for claim 122 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

*Amended Claim 123*

Claim 123 has been amended as indicated below where any added language is underlined and the removed language is lined through:

123. (currently amended) The filtering mask of claim 122, wherein the transverse curvature is at least partially imparted to the flexible flap by virtue of its mounting on the valve seat.

The amendments to claim 123 are presented to recite that the transverse curvature of the flap is "at least partially" caused by the valve seat. Support for claim 123 as amended can be found in U.S. Patent No. 5,867,767 at, e.g., Col. 3, lines 16-43, as well as in Figures 3 and 4.

**The 35 U.S.C. §251 Rejections**

**A. Reissue Declaration**

Claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-96, 100-104, 108-120, and 122-129 were rejected under 35 U.S.C. §251 as being based upon a defective reissue declaration.

Applicant respectfully submits that this rejection cannot be sustained.

The Supplemental Declaration submitted on November 4, 2005 in support of this reissue application indicated that the original patent was wholly or partly inoperative because the patentee had claimed more or less than the patentee had the right to claim. The alleged error in the Declaration was identified as follows:

"In claims 1 and 10 by reciting that both 'said root end of the cantilevered flexible flap and the respective sealing surface that contacts the cantilevered flexible flap at said root end have a fixed curvature in a direction transverse to said longitudinal axis', applicant believes that the claim is narrower than required by the detailed description and the prior art since only the flap needs to have the transverse curvature to achieve the benefits of the invention."

*Supplemental Reissue Application Declaration And Power of Attorney By The Inventor*, pp. 1-2 (November 4, 2005).

It is again asserted in the most recent Office Action that "[t]he reissue oath/declaration filed with this application is defective because the error which is relied upon to support the reissue application is not an error upon which a reissue can be based." *Office Action*, p. 2 (January 30, 2008). In particular, the United States Patent & Trademark Office continues to take the position that the alleged error "cannot be considered as a proper basis for a reissue application as the very limitations that are to be removed from the claims of this application are what were added by applicant during prosecution of the original patent in order to overcome an applied rejection." *Id.*

The only support cited for these assertions are references to 37 C.F.R. § 1.175(a) and Section 1414 of the Manual of Patent Examining Procedure. Neither the cited rule nor the examination guideline, however, explicitly supports the position of the Office.

The statutory basis for reissue as set forth in 35 U.S.C. § 251, however, does explicitly provide for the reissue of patents when the inventor claimed "more or less than he had a right to claim in the [original] patent."

In essence, this rejection is based on the assertion of the Office that language added to a claim can never be deleted in a broadening reissue application. Such a *per se* rule has, however, been expressly rejected. In *Ex parte Eggert*, the Board of Patent Appeals and Interferences, relying on caselaw from the Court of Customs and Patent Appeals, indicated that "... it appears that the examiner has asked this Board to impose a *per se* rule of reissue recapture to prevent appellants from retreating from any claim limitation determined to have secured allowance of the original patent. For the reasons set forth below, we decline to do so." *Ex parte Eggert*, 67 USPQ2d 1716, 1717 (BPAI 2003).

In restating this rejection, the Office is now relying on the draft amendments submitted by the patentee on May 20, 1997 and May 22, 1997, before the formal amendment submitted on June 25, 1997. In particular, the Office is asserting that the draft amendments establish that the patentee relied on curved seal surfaces to obtain an allowance of the claims in the original patent. The draft amendments do not, however, contain any arguments relying on a curved sealing surface to distinguish over the prior art applied against the claims. Rather, like the formal response filed in June 1997, the draft amendment filed on May 20, 1997 contains only arguments based on the transverse curvature of the flap, while the May 22, 1997 draft amendment contains no arguments at all. As a result, the record is, at best, unclear as to the reasons for the submission of any of the specific amendments submitted in the draft claims and the need for those amendments to overcome any prior art rejection.

Applicants submit, therefore, that the draft amendments cannot be used to support the assertions made in support of this rejection because reliance on an incomplete or unclear record as the basis for denying a reissue application has been rejected. *See, e.g., In re Willingham*, 282 F.2d 353, 127 USPQ 211 (CCPA 1960). In *Willingham*, the patentee presented an amendment in which a claim (i.e., claim 12) was canceled and replaced by a different claim (claim 15). Before its cancellation, no rejection of claim 12 was entered into the record. In refusing to bar the issuance of a reissue patent in this situation, the court held that "the reasons for the deletion of claim 12 of the original application do not appear of record, and we may not properly speculate as to what they may have been and base our decision on the results of such speculation." *Id.* at 357.

In the present reissue application, no reasons can be attributed to the presentation and replacement of the draft amendments submitted on May 22, 1997. In fact, it is admitted by the Office that the second version of the draft claims was "apparently" agreed to – but no record exists as to the specifics of the reasons for that agreement. In view of *Willingham*, Applicants respectfully submit that the Office has improperly drawn inferences from an unclear and incomplete record in the absence of any real and specific evidence as to the arguments made and

relied on by the Examiner when reviewing the draft claims. As a result, those inferences cannot be maintained as a basis for this rejection

Applicants also note that, in the "Response to Argument" section regarding the allegedly defective Declaration, the Office now asserts that "the claims eliminate language germane to the allowed concept concerning the transverse curvature of the sealing surface and instead propose language relating to a transverse curvature of the valve element." *Office Action*, p. 4 (January 30, 2008). This assertion is, however, incorrect to the extent that it infers that the claims of the original '767 patent did not contain language indicating that the flap itself had a transverse curvature. The original claims did, in fact, contain such language and the claims presented in this reissue application also contain language indicating that the flap includes a transverse curvature. Moreover, it was the transverse curvature of the flap – not the sealing surfaces – that was relied on to overcome the prior art rejections in the '767 patent (as discussed in detail in Applicants' previous responses).

Finally, the "Response to Argument" section also contains an assertion that "[f]ailure to submit claims to an essentially non-elected embodiment of the invention in later filed applications is not an 'error' causing a patent granted on examined claims to be partially inoperative by reason of claiming less than the applicant had a right to claim." *Office Action*, p. 4 (January 30, 2008). Applicants first note that no authority is cited for this position. Applicants also note that no restriction requirement was ever issued during prosecution of the '767 patent, thus rendering any assertions with respect to Applicants' claims in this reissue application being drawn to a "non-elected embodiment" without any basis in fact or relevance to the stated rejection.

As discussed above, the reasons asserted as the basis for rejecting the Declaration as defective do not form a proper basis for maintaining the rejection. As such, the rejection cannot properly be sustained. Reconsideration and withdrawal of the rejection of claims 6, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-96, 100-104, 108-120, and 122-129 on the basis of a defective reissue declaration are, therefore, respectfully requested.

**B. Recapture**

Claims 41, 43, 46, 64, 66, and 69 were rejected under 35 U.S.C. §251 for being an improper recapture of subject matter that was surrendered in the application for the patent upon which the present reissue application is based. Applicants respectfully submit that this rejection also cannot properly be sustained.

As noted previously, claims 41, 43, 46, 64, 66, and 69 do not violate the rule against recapture because the Applicant is not estopped from seeking reissue claims that are narrower in an aspect germane to a previously issued prior art rejection, even though they may be broader in some other regard than previously canceled claims. *See, e.g., In re Clement*, 131 F.3d 1464, 1470, 45 USPQ2d 1161, 1165 (Fed. Cir. 1997).

A comparison of each of the rejected claims to the original claims surrendered during prosecution of the '767 patent shows that each of the rejected claims recites additional limitations germane to the prior art rejections asserted against claims 1 and 10 of the '767 patent, thereby avoiding the prohibition against recapture.

Independent claim 41, for example, does recite additional limitations that are germane to the prior art rejections of the claims of the '767 patent because claim 41 recites that "the flexible flap has a maximum transverse curvature at the location where the flexible flap is mounted to the valve seat." No such recitation was present in the claims of the '767 patent and none of the prior art references applied against those claims disclose or suggest such a feature.

Claim 43 depends from claim 41 and, as a result, does not violate the recapture rule for the reasons presented with respect to claim 41. In addition, however, claim 43 also recites that "the transverse curvature of the flexible flap progressively decreases toward the free end of the flexible flap." No such recitation was present in the claims of the '767 patent and none of the prior art references applied against those claims disclose or suggest such a feature.

Claim 46 also depends from claim 41 and, as a result, does not violate the recapture rule for the reasons presented with respect to claim 41. In addition, however, claim 46 also recites that "the exhalation valve is so located on the mask such that during normal head movements of a wearer, the free end of the flexible flap is generally directed downwardly." No such recitation

was present in the claims of the '767 patent and none of the prior art references applied against those claims disclose or suggest such a feature.

Independent claim 64 also does not violate the recapture rule because it recites additional limitations that are germane to the prior art rejections of the claims of the '767 patent. For example, claim 64 recites that "the flexible flap has a maximum transverse curvature at the location where the flexible flap is mounted to the valve seat." No such recitation was present in the claims of the '767 patent and none of the prior art references applied against those claims disclose or suggest such a feature.

Claim 66 depends from claim 64 and, as a result, does not violate the recapture rule for the reasons presented with respect to claim 64. In addition, however, claim 64 also recites that "the transverse curvature of the flexible flap decreases in the longitudinal dimension toward a free end of the flexible flap." No such recitation was present in the claims of the '767 patent and none of the prior art references applied against those claims disclose or suggest such a feature.

Claim 69 also depends from claim 64 and, as a result, does not violate the recapture rule for the reasons presented with respect to claim 64. In addition, however, claim 69 also recites that "the exhalation valve is so located on the mask such that during normal head movements of a wearer, the free end of the flexible flap is generally directed downward." No such recitation was present in the claims of the '767 patent and none of the prior art references applied against those claims disclose or suggest such a feature.

Even if the Office were to find that the limitations discussed above in each of claims 41, 43, 46, 64, 66, and 69 are not germane to a prior art rejection overcome during prosecution of the '767 patent, the limitation found in the original claims with respect to sealing surfaces having a transverse curvature was never actually relied on by the Applicants to distinguish the claimed invention over the prior art applied to the claims of the '767 patent. As a result, the recitations regarding transverse curvature of the sealing surfaces were not "germane to a prior art rejection" – thus barring application of the recapture rule to removal of those limitations from claims 41, 43, 46, 64, 66, and 69.

As discussed in previous responses, the only feature actually argued by Applicants to obtain allowance of the claims of the '767 patent was the transverse curvature of the flap – not transverse curvature of the sealing surfaces.

In this most recent Office Action, however, the Office has attempted to rely on the submission of draft amendments in May 1997 as evidence that Applicants did rely on transverse curvature of the sealing surfaces to overcome prior art rejections of the claims of the '767 patent. The Office summarizes its position in the following assertion: "Clearly the prosecution history of the application of the Patent sought to be reissued indicates that language relating to the transverse curvature of the sealing surfaces was specifically relied on to overcome a rejection on prior art." *Office Action*, p. 8 (January 30, 2008). Applicants respectfully submit, however, that this assertion is not supported by the facts and cannot be used as the basis for application of the recapture rule to reject claims 41, 43, 46, 64, 66, and 69.

Rather, like the formal amendment filed on June 25, 1997, the draft amendment submitted May 20, 1997 contains only arguments regarding transverse curvature of the flap – not the sealing surfaces. Further, the draft amendment submitted on May 22, 1997 contains no arguments at all. As a result, the assertion made by the Office that "the prosecution history of the application of the Patent sought to be reissued indicates that language relating to the transverse curvature of the sealing surfaces was specifically relied on to overcome a rejection on prior art" is not supported in any way by the draft amendments or the formal amendments filed during prosecution of the original claims.

The prosecution history is, therefore, at best unclear as to the reasons for the submission of any of the specific amendments submitted in the draft claims and the need for those amendments to overcome any prior art rejection. Such lack of clarity and the need for equity and fairness in a reissue proceeding has been held to preclude denial of a reissue application. *In re Willingham*, 282 F.2d 353, 127 USPQ 211 (CCPA 1960).

In *Willingham*, the patentee presented an amendment in which a claim (i.e., claim 12) was canceled and replaced by a different claim (claim 15). Before its cancellation, no rejection of claim 12 was entered into the record. In refusing to bar the issuance of a reissue patent in this



situation, the court held that "the reasons for the deletion of claim 12 of the original application do not appear of record, and we may not properly speculate as to what they may have been and base our decision on the results of such speculation." *Id.* at 357.

Similarly in the present reissue application, no specific reasons can be attributed to the presentation and replacement of the draft amendments submitted in May 1997. In fact, it is admitted by the Office that the second version of the draft claims was "apparently" agreed to – but no record exists as to the specifics of any such agreement. In view of *Willingham*, Applicants respectfully submit that the Office has improperly drawn inferences from an unclear and incomplete record in the absence of any real and specific evidence as to the arguments made and relied on by the Examiner when reviewing the draft claims submitted in the original patent.

For at least the reasons presented herein, Applicants respectfully submit that the recapture rule does not apply to claims 41, 43, 46, 66 and 69. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

### **C. New Matter**

Claims 47, 49-54, 70, 72-96, 100-104, 108-120, and 122-129 were rejected under 35 U.S.C. §251 as being based upon new matter added to the patent for which reissue is sought. Applicants respectfully submit that this rejection cannot be sustained because new matter has not been added to the present patent application.

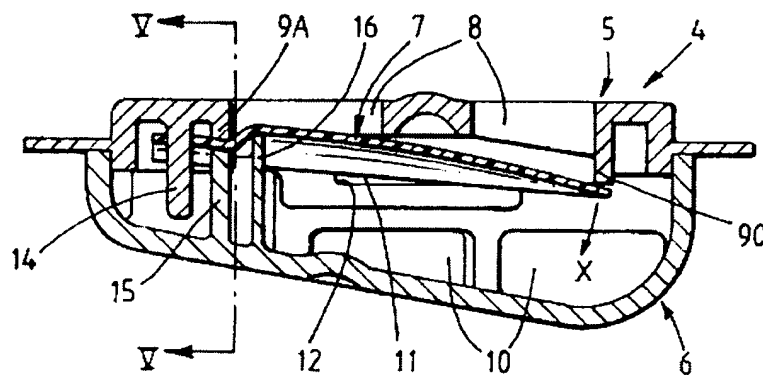
#### *Independent Claim 47 & Dependent Claims 49-54*

As noted previously, support for claim 47 can be found in the '767 patent at, e.g., col. 3, lines 16-53 and in Figures 4-5. Figure 4 of U.S. Patent No. 5,687,767 is reproduced below to assist with discussion of this rejection.

The exemplary valve depicted in Figure 4 includes a flexible flap 7. The flap 7 includes a stationary portion at its left end in the view of Figure 4. The stationary portion, i.e., the portion of the flap 7 that remains essentially stationary during exhalation, begins at the second profiled block 16 and extends to the left of the block 16 in the view of Figure 4. In particular, an

exemplary portion of the stationary portion of the flap 7 that is "in non-alignment with the seal surface" as recited in claim 47 is found between profiled block 15 and second profiled block 16 in the view of Figure 4, where the flap 7 angles downward from the second profiled block 16 towards profiled block 15 and the portion 9A of the seal ridge that faces the block 15.

Fig.4.



In view of the above, Applicants submit that the assertion made by the United States Patent and Trademark Office that the stationary portion recited in claim 47 "is that portion of the valve flap 8 (*sic*) clamped between the seal ridges 15 and 9a" is too narrow and cannot be maintained. *Office Action*, p. 15 (January 30, 2008).

Rather, the stationary portion of the valve flap 7 includes the portion of the flap 7 acted on by the second profiled block 16 and mainly extending to the left in the view of Figure 4. Within the larger stationary portion, there is a portion of the valve flap 7 located between blocks 15 and 16 that is not aligned with the seal surface.

Applicants note that the Office also continues to take the position that "[s]ince the entire 'stationary portion (is) ... held ... in contact with ... the seal ridge' it is not understood how the mounting of the flap in a manner which presses the flap 'towards the seal ridge (causes) a portion of the stationary portion (to) reside in non-alignment with the seal surface' as recited in the claim." *Office Action*, p. 9 (January 30, 2008) (emphasis in original).

The word "entire" does not, however, appear anywhere in claim 47 or in the description of the stationary portion of the flap 7. Nor is the word "entire" included within the claim language that is quoted by the Office in its attempt to support this rejection. Any assertion, therefore, that claim 47 recites that the "entire" stationary portion be in contact with the seal ridge is not supported by a plain reading of the claim or the specification.

For at least the reasons presented above, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 47 and its dependent claims 49-54 as reciting new matter.

*Independent Claim 70 and Dependent Claims 72-79 & 83-85*

As before, the new matter rejection of independent claim 70 and its dependent claims 72-79 and 83-85 is based on an objection to the use of the term "off-center" in connection with the mounting of the stationary portion of the flap. Applicants respectfully submit, however, that the mounting of the stationary portion of the flap as disclosed in the original patent is off-center relative to the flap. Reference to, e.g., Figure 4 of the '767 patent, shows that the stationary portion of the exemplary flap 7 (i.e., the portion of the flap deflected by block 16 and extending leftward in Figure 4) is off-center relative to the flap because it is closer to one end of the flap than the other end of the flap.

In the reasoning presented to support this rejection, however, the Office has taken the position that because the valve flap is not mounted off-center with respect to the width of the flap, it is not mounted off-center. That interpretation is essentially equivalent to reading the term "off-center" as requiring that the flap be mounted off-center relative to both its length and its width. That is not, however, required by the language of claim 70 and, further, off-center mounting of the flap is clearly disclosed in the specification. Applicants respectfully submit, therefore, that the interpretation of "off-center" relied on by the Office in support of this rejection is too narrow and does not support a new matter rejection of independent claim 70.

The new matter rejection of independent claim 70 was also based on an objection to the portion of claim 70 which recites that mounting of the flap causes "at least part of the stationary

portion to reside in non-alignment with the seal surface when viewing the flap in a longitudinal section (FIG. 4)."

This same language is also found in independent claim 47 and Applicants submit that the objections raised with respect to the use of that language in both claims 47 and 70 are addressed above with respect to the new matter rejection of claim 47. For those same reasons, Applicants submit that this language also cannot support a new matter rejection of claim 70.

For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of independent claim 70 and its remaining dependent claims 72-79 and 83-85 as reciting new matter.

#### Claims 80-82

Claims 80-82 have been canceled, without prejudice, in view of the redundant recitations of claims 80-82.

#### Independent Claim 86 and Dependent Claims 87-88

The new matter rejection of independent claim 86 was based on an objection to the use of the phrase "at least" in connection with the curvature imparted to the flexible flap. In particular, it is asserted that the phrase "at least" is improper because it "enlarges the scope of the claim."

*Office Action*, p. 10 (January 30, 2008). Applicants respectfully submit that this rejection cannot be sustained.

Applicants note that the language of claim 86 has been amended to recite "a valve cover that has a profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat, wherein the flexible flap exhibits ~~to cause the flexible flap to exhibit~~ a curvature at least in a direction transverse to the longitudinal axis" (with the added language underlined).

Support for claim 86 is found in the '767 patent at, e.g., column 3, line 62 to column 4, line 10, as well as in Figures 3 and 4. That portion of the '767 patent indicates that the flap may exhibit longitudinal curvature in addition to a curvature in a direction that is transverse to the longitudinal

axis. In other words, the flaps in valves described in that portion of the '767 patent have a curvature in a direction transverse to the longitudinal axis, but they may also exhibit a curvature in another direction.

As a result, the flaps disclosed in the '767 patent can accurately be described, as recited in claim 86, as exhibiting "at least" a curvature in a direction transverse to the longitudinal axis because they may also exhibit a curvature in another direction (e.g., in the longitudinal direction).

For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the new matter rejection of independent claim 86 and dependent claims 87-88.

#### Claim 87

Claim 87 was rejected as reciting new matter for a variety of reasons. Claim 87 has been amended in this response and Applicants direct the attention of the Office to the claim as amended as well as the arguments presented below – all of which are believed to merit withdrawal of the new matter rejection of claim 87

The new matter rejection of claim 87 was based, in part, on the phrase "the profiled block engages the flap at a non-central location of the flap in a non-aligned relationship to the sealing surfaces." It was asserted that the "profiled block" recited in claim 86 (from which claim 87 depends), must refer to only profiled block 15. Applicants respectfully disagree with this interpretation, but note that, given the amendments to claim 87, this point is rendered moot.

Further, the phrase "non-central location" was interpreted only with respect to width and Applicants submit that this interpretation is too narrow. Regardless of whether the "profiled block" recited in claim 87 is found in the preferred embodiment as either element 15 or 16, either of the blocks can be accurately described as a block that "engages the flap at a non-central location of the flap" because both elements are located closer to one end of the flap 7 than the other end.

For at least these reasons, Applicants respectfully submit that claim 87 is supported by the '767 patent. Reconsideration and withdrawal of the new matter rejection of claim 87 are, therefore, respectfully requested.

*Claims 89-96 and 100-104, and 108-120*

Independent claims 89, 92, 95, 104, 111, and 120, along with their respective dependent claims 90-91, 93-94, 96, 100-103, 108-110, and 112-119 were rejected as reciting new matter based on the assertion that block 16 alone does not impart curvature to the flap in the preferred embodiment of the invention as described in the '767 patent. Applicants respectfully disagree that the stated assertions are sufficient to support a new matter rejection of those claims.

The portions of the '767 patent cited as support for the assertions on which the rejections of the claims are found only in the description of the preferred embodiment. The '767 patent describes the invention broadly in the Summary section (*see, e.g.*, col. 1, line 66 to col. 2, line 31) where it is noted that the flap has transverse curvature without any indication that the transverse curvature must be provided by the exact combination of features recited in connection with the preferred embodiment. As a result, Applicants submit that it is improper to limit the invention to the features described in connection with the preferred embodiment as asserted in connection with the rejections of these claims.

Furthermore, Applicants have amended many of these claims in the present response, thus rendering the bases for the new matter rejections moot. The impact of some of those amendments on the bases for the new matter rejections of claims 89-96 and 100-104, and 108-120 are expressly discussed below.

With respect to claims 89 and 92, the language that formed the bases for the new matter rejections of claims 89 and 92 has been amended. As a result, claims 89 and 92 now recite that the curvature in the flap "is accomplished at least in part by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface." These amendments render the asserted bases for the new matter rejections of claims 89 and 92 moot.

With respect to claims 90 and 93, the claims have been amended to recite that the force recited in, respectively, claims 89 and 92 is provided by a profiled block extending from the cover, thus rendering the new matter rejections of claims 90 and 93 moot.

With respect to claim 91, the claim has been amended to recite that the transverse curvature in the flap decreases, thus rendering the bases for the new matter rejection of claim 91 moot.

With respect to claim 95, the language that formed a portion of the basis for the new matter rejection of claim 95 has been amended. As a result, claim 95 now recites that the flap has a fixed curvature that results "at least in part from a force being applied to the flap at a position proximate the root end and between the peripheral side edges." Further, Applicants respectfully submit that the language in lines 24-28 of claim 95 is not repetitive as asserted. As a result, claim 95 does not violate the prohibition of new matter as asserted in the Office Action.

With respect to claim 104, the language that formed a portion of the basis for the new matter rejection of claim 104 has been amended. As a result, claim 104 now recites that the flap has a fixed curvature that is "at least partially resulting from a force being applied to said flap at a position proximate the supported end and between the peripheral side edges." Further, Applicants respectfully submit that the language in lines 29-33 of claim 104 is not repetitive as asserted. As a result, claim 104 does not violate the prohibition of new matter as asserted in the Office Action.

With respect to claim 111, the language that formed the basis for the new matter rejection of claim 111 has been amended. The claim now recites that the flap has a fixed curvature that is "at least partially resulting from a force being applied to said flap at a position proximate the supported end and between the peripheral side edges." As a result, claim 111 does not violate the prohibition of new matter.

With respect to claim 120, the language that formed the basis for the new matter rejection of claim 120 has been amended. The claim now recites that "the mounting means includes a block that exerts a force in the upstream direction to the flap's downstream surface at a position proximate the supported end and between the peripheral side edges, the applied force moving the flap upstream at the exerted position and thus at least partially imparting the curvature." As a result, claim 120 does not violate the prohibition of new matter.

For at least these reasons, Applicants respectfully submit that claims 89-96 and 100-104, and 108-120 are supported by the '767 patent. Reconsideration and withdrawal of the new matter rejections of these claims are, therefore, respectfully requested.

Claims 122-129

Independent claim 122 and its dependent claims 123-129 were rejected as reciting new matter. This rejection is based, in part, on an objection to the use of the term "non-centrally" in connection with the mounting of the flexible flap. Applicants respectfully submit, however, that the flexible flap as disclosed in the original patent is non-centrally mounted. Reference to, e.g., Figure 4 of the '767 patent, shows that only one end of the exemplary flap 7 is mounted on the valve seat and that mounted portion is located on one side of the valve seat orifice – i.e., the flap is not centrally mounted.

In the reasoning presented to support this rejection, however, the Office has taken the position that because the valve flap is mounted centrally with respect to the width of the valve, it is not mounted non-centrally in any dimension. That interpretation is essentially equivalent to reading the term "non-centrally" as requiring that the flap be mounted non-centrally relative to both its length and its width. That is not, however, required by the language of claim 122 and, further, non-central mounting of the flap is clearly disclosed in the specification. Applicants respectfully submit, therefore, that the interpretation of "non-centrally" relied on by the Office in support of this rejection is too narrow and does not support a new matter rejection of independent claim 122 and its dependent claims 123-129.

The new matter rejection of independent claim 122 was also based on an objection to the portion of claim 122 which recites that the "curvature [in the flap] extends at least transversely to the longitudinal dimension" of the flap. In particular, it is asserted that the phrase "at least" is improper because it "enlarges the scope of the claim." *Office Action*, p. 14 (January 30, 2008). Applicants respectfully submit that this rejection cannot be sustained.

Support for claim 122 is found in the '767 patent at, e.g., column 3, line 62 to column 4, line 10, as well as in Figures 3 and 4. That portion of the '767 patent indicates that the flap may



exhibit longitudinal curvature in addition to a curvature in a direction that is transverse to the longitudinal axis. In other words, the flaps in valves described in that portion of the '767 patent have a curvature in a direction transverse to the longitudinal axis, but they may also exhibit a curvature in another direction.

As a result, the flaps disclosed in the '767 patent can accurately be described, as recited in claim 122, as exhibiting "curvature [that] extends at least transversely to the longitudinal dimension" because they may also exhibit a curvature in another direction (e.g., in the longitudinal direction).

For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the new matter rejection of independent claim 122 and its dependent claims 123-129.

### **The 35 U.S.C. §102 Rejection**

Claims 41, 43, 44, 64, 66, and 67 under 35 U.S.C. §102(b) as being anticipated by Cover (U.S. Patent No. 2,105,183). Applicants respectfully disagree.

In response to amendments and arguments previously presented with respect to exhalation valves of independent claims 41 and 64 including "non-centrally mounted" valve flaps, it has been asserted that Cover can be interpreted as teaching "two 'cantilever' type valve elements either of which is readable on the "flap" recited [in claims 41 and 64]."

Applicants note, however, that amended independent claims 41 and 64 recite an exhalation valve that includes "only one flexible flap" that is "non-centrally mounted to the valve seat in cantilever fashion." As a result, the valves of Cover, with their pairs of valve flaps, cannot anticipate claims 41, 43, 44, 64, 66, and 67.

In addition, both independent claims 41 and 64 recite that the flexible flap has a "maximum transverse curvature at the location where the flexible flap is mounted to the valve seat." Although it is asserted that Cover discloses this feature, no specific portion of Cover is cited as support for the assertion. Applicants respectfully submit that Cover does not explicitly disclose this feature – either in the text or the figures.

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If it is the Examiner's intent to assert that Cover inherently discloses this feature, then Applicants respectfully submit that the requirements for establishing anticipation through inherency have not been met.

“In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” *M.P.E.P.* § 2112(IV), p. 2100-48, 8th Ed., Rev 6 (Sept. 2007) (emphasis in original).

Because this anticipation rejection does not provide any such factual basis or reasoning to show why or how the "maximum transverse curvature at the location where the flexible flap is mounted to the valve seat," Applicants respectfully submit that the inherent nature of that feature has not been adequately established.

For at least these reasons, Applicants respectfully submit that claims 41, 43, 44, 64, 66 and 67 are not anticipated by Cover. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

**Amendment and Response**

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**Summary**

It is respectfully submitted that the pending claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-79, 83-96, 100-104, 108-120, and 122-129 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicant's Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted

By

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29 MAY 2008  
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Date of Deposit: May 29, 2008

The undersigned hereby certifies that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to **Mail Stop RCE**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By: Dani Moroz

Name: Dani Moroz

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